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**NOTE**

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From: General Secretariat of the Council  
To: Permanent Representatives Committee/Council

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Subject: Attracting female talent to science, technology, engineering, arts and  
mathematics (STEAM) disciplines  
*- Policy debate*

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Following consultation of the Education Committee, the Presidency has prepared the attached background note, which is submitted as the basis for the policy debate to take place at the Education, Youth, Culture and Sport Council meeting on 23 November 2023.

**Attracting female talent to science, technology, engineering, arts and mathematics (STEAM) disciplines***Presidency background note*

Technological transformation is an essential element for the economic and social progress of the European Union (EU) and the rest of the world. At the same time, the development of artificial intelligence promises to be an element that will have an extraordinary impact in a future that has already begun. Consequently, the demand of both the manufacturing sector and the labour market for more professionals with STEAM profiles<sup>1</sup> is growing. Education and training systems have a responsibility to respond to this demand. To overcome the challenges of the future, it will be necessary to galvanise the talent of all our youth. However, a substantial number – particularly girls and young women – continue to choose training paths away from science and technology.

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<sup>1</sup> As indicated in the title, STEAM is the acronym for Science, Technology, Engineering, Arts and Mathematics. In this document, the A is included, standing for arts, innovation and creativity, adopting the more integrational vision of the Rhode Island School of Design in 2010, in which creativity becomes a key factor for the development of curiosity, innovation and the search for diverse solutions.

The most recent statistics show the persistence of gender stereotypes in education<sup>2</sup>. For example, among members of the Organisation for Economic Cooperation and Development (OECD)<sup>3</sup>, the number of women attaining tertiary education has increased considerably; in fact, in most countries, they are already a majority. The proportion of women in fields related to education (80%), health (80%) and social sciences (70%) has remained relatively stable since 2005. However, between 2005-2020, the percentage of female engineers hardly changed, remaining at around 25%. The most worrying fact, however, is that the proportion of female graduates in ICT-related fields fell by three percentage points, and today they represent only 20% of the total.

The imbalance between male and female students in the different STEAM areas must be redressed if we are to reduce the gender gap in employment. The situation is aggravated by the fact that ‘young women are more likely than young men to become inactive due to caring responsibilities, such as looking after children or dependent adults, or other personal or family responsibilities’<sup>4</sup>. Therefore, the Council recommends that Member States ‘align employment offers to the relevant principles of the European Pillar of Social Rights, ensuring equality of treatment and opportunities between women and men in all areas’.

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<sup>2</sup> Brussino, O. and McBrien, J. (2022), *Gender stereotypes in education: Policies and practices to address gender stereotyping across OECD education systems*, OECD Education Working Papers, No. 271, OECD Publishing, Paris.

<sup>3</sup> Encinas-Martin, M. and Cherian, M. (2023), *Gender, Education and Skills: The Persistence of Gender Gaps in Education and Skills*, OECD Skills Studies, OECD Publishing, Paris.

<sup>4</sup> Council Recommendation of 30 October 2020 on A Bridge to Jobs – Reinforcing the Youth Guarantee and replacing the Council Recommendation of 22 April 2013 on establishing a Youth Guarantee (OJ C 372, 4.11.2020, p. 1).

Equity, inclusion and the promotion of vocations in the areas of STEAM is key for the Council of the EU. Thus, ‘inclusive education and training also entails developing gender sensitivity in the learning processes and in education and training institutions and challenging and dissolving gender stereotypes, especially those that constrain the choices of boys and girls for their field of study’<sup>5</sup>.

Today, there are serious difficulties in responding to the demands of STEAM professionals by the manufacturing sector. All countries need more people, men and women, trained in these areas. If young women joined them to the same extent as their male peers, the problem would be substantially reduced.

Gender equality is not only a moral imperative, but also a key factor in creating stronger, more sustainable and more inclusive economies. EU countries are fully aware of the challenge that the current situation poses to our education and training systems and, ultimately, to the advancement and progress of our countries. They also recognise that the numerous initiatives implemented are not yielding the expected results. Rousing the motivation and interest of girls and young women in STEAM areas at all levels of education and training – particularly in higher education, including both higher VET and university – continues to be one of the great challenges of our education and training systems. If we succeed, it will help make progress in putting an end to segregation in employment. Furthermore, female participation will improve the response to labour market needs and, ultimately, economic and social development in our countries will be fostered.

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<sup>5</sup> Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030) (OJ C 66, 26.2.2021, p. 1).

In light of the above, the Presidency invites Ministers to consider the questions below for a discussion on the topic.

**Questions for the discussion:**

- What do you consider the biggest challenges in reducing the gender gap in STEAM disciplines?
- What initiatives could be launched, in both national and European contexts, to attract female talent to STEAM education and training areas?